

REMARKS

Claims 1-14 stand rejected under 35 U.S.C. §102(b) for anticipation by U.S. Patent No. 4,702,574 to Bawa. Claims 1, 2, 6, 7, 11, 13 and 14 stand rejected under 35 U.S.C. §102(b) for anticipation by U.S. Patent No. 4,472,479 to Hayes et al. Applicants respectfully traverse these rejections in view of the amendment to claim 1 and for the following reasons.

The present invention is directed to a coating composition for applying to a substrate. Claim 1 has been amended to clarify that the coating composition is applied to a substrate. Support therefor can be found at least at paragraph 13 of the specification. The coating composition includes a resinous binder with colorants and reflective pigments dispersed therein. The colorants absorb light at a first wavelength band and produce fluorescent light at a second wavelength band when exposed to visible light. As shown in the drawings, incident light is partially absorbed by the colorant. Light waves that are not absorbed by the colorant are then reflected by the reflective pigments and are viewed on face to the substrate as reflected light. However, a different color is viewed on flop from the fluorescent light produced by the colorants. Thus, the coating composition has a first appearance on face that is dominated by the absorbance of light by the colorants and a second appearance on flop that is dominated by fluorescence of the pigments.

Claim 1 has been amended to specify these two different appearances on face and on flop to a coating composition for applying to a substrate. Support therefor can be found at least at paragraph 17 of the specification. Such a coating composition is not taught or suggested by the prior art.

In particular, the Bawa patent discloses a contact lens that has fluorescent colorants that may be included within the polymer which is used to form the contact lens or which may be applied to the surface of a polymeric lens. The contact lens may also include, along with the fluorescent dye, an opaque pigment such as TiO₂ or mica, i.e., conventional opaque pigments for masking the underlying iris of the wearer of the contact lens. The contact lens of the Bawa patent is not a coating composition which may be applied to a substrate. At best, it is a polymer that contains fluorescent pigments or dyes that may also contain materials to mask

the underlying eye of the lens wearer. Moreover, the contact lens of the Bawa patent would not have a different appearance on face than on flop. The goal of the Bawa contact lens is to produce a colored contact lens that changes the perceived color of the wearer's eye. As such, there would be no motivation to include in a contact lens any coating over a composition which would have a first appearance when looking straight at the wearer of the contact lens and which changes to a different color dominated by fluorescence of pigments within the contact lens at a different viewing angle to the wearer's eye. Accordingly, the coating composition for applying to a substrate set forth in claims 1-14 defines over the contact lens of the Bawa patent.

In addition, the fluorescent pigments used in the Bawa patent are of significantly greater size than the pigments used in the present invention. At col. 4, the particle size of the fluorescent pigments used in the contact lens of Bawa is stated as being "from 1.75 to 20 m". The Office Action asserts that this range means "0.175 to 20 nm". Actually, that range is believed to be a typographical error in the patent and the patent should read the particle sizes in the range of "from 1.75 to 20 μ m". The Day-Glo pigments as described in the Bawa patent are typically micron sized and not nanometer sized. Moreover, a fluorescent dye which is mixed into a carrier resin and then ground to a powder would be micron sized and not nanometer sized as required in claim 5 of the present application. Nowhere in the Bawa patent is there any teaching or suggestion to use pigments that have a particle size of less than about 150 nm. Accordingly, claim 5, as well as claims 6-7 which depend therefrom, are believed to further define over the Bawa patent.

With respect to claim 13, which is directed to a coated article comprising a substrate and the coating composition of claim 1, where the colorants are in a first layer and the reflective pigments are in an underlying layer, no such structure is taught or suggested by the Bawa patent. The only substrate of Bawa is the contact lens itself. At paragraph 6, lines 48-51, the lens can be imprinted or otherwise coated with a fluorescent dye that fixes to the collar of the lens. Nowhere does the Bawa patent suggest an article which is coated with a coating composition that includes a binder, as well as fluorescent colorant and reflective pigments. In

addition, the Bawa patent does not disclose a multi-layered structure as is required in claims 13 and 14 of fluorescent colorants in a first layer and reflective pigments in a second layer underlying that first layer, both being applied to a substrate. Claim 14 further requires a third uncolored polymer layer over the first layer containing the fluorescent colorants. No such uncolored upper layer is suggested by Bawa. Accordingly, claims 13 and 14 further define over the Bawa patent.

The Hayes patent is directed to a fluorescent ribbon that is applied to a substrate such as paper. The fluorescent ribbon may include reflective pigments, however, the fluorescent ribbon of the Hayes patent does not exhibit a first appearance on face of the ribbon that is dominated by absorbance of light by colorants and a second appearance on flop to the fluorescent ribbon that is dominated by fluorescence of the colorants. Moreover, there is no motivation to alter the fluorescent ribbon described in the Hayes patent to have such an angle dependent light effect. The fluorescent ribbons are used to mark documents that can be optically read to permit machine sorting of the documents. An alteration in the color effect of the fluorescent ribbon on face or on flop would cause inaccurate optical reading of the fluorescent ribbons. Accordingly, there is no motivation in the Hayes patent to exhibit two different appearances on face and on flop. Therefore, claims 1, 2, 6, 7, 11, 13 and 14 are believed to define thereover.

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In view of the amendment to claim 1 and for the forgoing reasons, claims 1-14 are believed to define over the prior art of record and be in condition for allowance. A typographical error is corrected in the amendment of claim 12. Reconsideration of the rejections and allowance of claims 1-14 are respectfully requested.

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